

IN THE CLAIMS:

Please cancel claims 1-9 without prejudice.

1-9. (Canceled)

10. (Previously Presented) A method of forming a gate dielectric in an integrated processing system, comprising:

heating a structure comprising a silicon oxide film formed on a silicon substrate in an atmosphere comprising NH_3 in a first processing chamber of the integrated processing system to incorporate nitrogen into the silicon oxide film;

transferring the structure to a second processing chamber of the integrated processing system; and then

exposing the structure to a plasma comprising a nitrogen source in the second processing chamber to form a silicon oxynitride gate dielectric on the substrate.

11. (Original) The method of claim 10, further comprising:

transferring the structure to a third processing chamber of the integrated processing system; and

annealing the substrate in the third processing chamber.

12. (Original) The method of claim 11, further comprising:

introducing the silicon substrate into the integrated processing system; and

forming the silicon oxide film on the substrate in the third processing chamber of the integrated processing system to form the structure comprising a silicon oxide film on a silicon substrate.

13. (Previously Presented) The method of claim 12, further comprising:

transferring the structure to a fourth processing chamber of the integrated processing system after the annealing the substrate; and

depositing a polysilicon layer on the silicon oxynitride gate dielectric in the fifth processing chamber.

14. (Original) The method of claim 11, further comprising:
introducing the silicon substrate into the integrated processing system; and
forming the silicon oxide film on the substrate in a fourth processing chamber of the integrated processing system to form the structure comprising a silicon oxide film on a silicon substrate.
15. (Previously Presented) The method of claim 14, further comprising:
transferring the structure to a fifth processing chamber external to the integrated processing system after the exposing the structure to the plasma; and
depositing a polysilicon layer on the silicon oxynitride gate dielectric in the fifth processing chamber.
16. (Original) The method of claim 11, wherein the annealing is performed in an atmosphere comprising O₂.
17. (Original) The method of claim 16, wherein the annealing further comprises annealing the structure in an inert or reducing atmosphere before the annealing in an atmosphere comprising O₂.
18. (Original) The method of claim 10, further comprising transferring the structure to a cool down chamber after the heating and before the transferring the structure to a second processing chamber.
- 19-26. (Canceled)